

## Patent Claims

1. A method for butt welding metal sheets (1, 2), preferably strips of metal sheet or steel sheet billets of differing thickness by relative motion between a laser beam (11) or electron beam and said metal sheets (1, 2) along the contact line between said metal sheets (1, 2) or the weld seam to be prepared with tension rollers (4, 5, 10) arranged in pairs above and below said metal sheets (1, 2) at spaced location from one another and next to said weld seam along said contact line of said metal sheets (1, 2) or said weld seam to be prepared, wherein said tension rollers (10) arranged above said metal sheets (1, 2) are movable in height and/or roll on said metal sheets (1, 2) in a spring-loaded manner, characterized in that said tension rollers (4, 5) arranged below said metal sheets (1, 2) are adjusted in height at least on one side of said weld seam.
2. A method in accordance with claim 1, characterized in that said tension rollers (4, 5) are adjusted in height as a function of the thickness and/or the necessary height position of said corresponding metal sheet (1, 2).
- 15 3. A method in accordance with claim 1 or 2, characterized in that the height of one said tension roller (4) is changed and the height of another tension roller (5) is fixed during the ongoing welding operation.
4. A device for butt welding said metal sheets (1, 2), preferably metal sheet strips or steel sheet billets of differing thickness for carrying out the welding method in accordance with the above claims, wherein said tension rollers (4, 5, 10) are arranged in pairs at spaced locations from one another next to said weld seam above and below said metal sheets (1, 2), and said tension rollers (10) arranged above said metal sheets (1, 2) are movable in height and/or roll on said metal sheets (1, 2) in a spring-loaded manner, **characterized in that** at least one of

said tension rollers (4) arranged below said metal sheets (1, 2) is arranged on a bearing (8) that is adjustable in height on a vertical guide rail.

Figure 1

5 through

Figure 9